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THE ENUMERATION

Prepared by the ECLA secretariat

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/I. INTRODUCTION

I. INTRODUCTION

1. Nearly everything that is done in preparation for the census, especially in the field, has a bearing on the success of the census enumeration. At the same time the arrangement of the enumeration is decisive for the results of the census operation itself. Therefore the taking of decisions on the method of enumeration, the preparation of the enumeration and its organization is one of the most vital stages of the census. Because the enumeration itself is a relatively short phase (lasting only one day in some countries), it is necessary to concentrate all available resources and personnel on its preparation, organization and control. The importance of the enumeration cannot be measured in terms of the time or money spent on it, for in some countries the enumerators and other field workers are unpaid, whereas in others the cost of the enumeration is about 50-60 per cent of the total census cost, but mostly in terms of the concentration of personnel: practically everybody connected with the census participates in the enumeration, and the whole population is involved in it also.

2. Before discussing the details of the enumeration methods and forms, it is necessary to explain that the preparation of the enumeration has two different phases. The first is the general planning and preparation of the census, especially the field preparation (geographic and cartographic work and field organization, the problems of which are discussed in documents ST/ECLA/Conf.32/L.1 and L.4). The second, which will be dealt with in this paper, under the heading of pre-enumeration work, includes all operations which come immediately before the actual enumeration.

3. The pre-enumeration stage includes such operations as the following:

(a) Recruitment of field staff (enumerators, supervisors, field officers);

(b) Training of field staff;

(c) Local organization of census enumeration;

(d) Central co-ordination and control of enumeration;

(e) Census publicity and propaganda.

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4. The importance of careful enumeration is not lessened by the emergence of a new methodology for evaluating the reliability of census data. In the past only the enumerated data were accepted and used, but more recently statistical adjustments have been utilized to correct estimated errors (in some cases based on the experience of post-enumeration sample surveys). Nevertheless, the adjusted tabulations are never completely satisfactory for the initial difficulties cannot ever be entirely overcome.

5. The basic errors which may occur are as follows:

(a) Failure to enumerate all the persons who should be included in the census;

(b) Failure to collect all the required information concerning each person;

(c) The entry of incorrect information;

(d) The repeated enumeration of some persons.

6. These errors may result from faulty preparation (i.e., poorly worded questionnaires and instructions or incomplete geographic and cartographic work), but mostly from the mistakes in the pre-enumeration phase and in the enumeration itself, i.e. errors in the recruitment and training of enumerators, inadequate direction and control of the enumeration, or a lack of co-operation on the part of the public (which could be caused by insufficient census publicity), etc. Most of these errors can be corrected if they are recognized in time.

II. PRE-ENUMERATION OPERATION

7. Before starting the pre-enumeration operations it is necessary to decide upon the basic method of the enumeration, i.e. whether canvasser or self-enumeration method will be used (see paras. 43-50 of this document). It has to be noted nevertheless that the pre-enumeration stages remain the same although the details will vary according to the type of enumeration.

/A. Recruitment

A. Recruitment of field staff

8. During the first stage of census planning, a decision has been taken regarding the field staff. They may be recruited from the following three categories:

(a) Specially recruited staff, who will be paid for their work;

(b) Civil servants, who will continue to receive their usual salaries;

(c) Unpaid volunteers.

The decision on this point depends on the following considerations: the financial resources available, the personnel detached for census work by other government departments, whether efficient enumerators can be found outside government departments, and, lastly, the census tradition of the country concerned. This decision usually settles the period of census enumeration, for the last two categories can participate for only a short period, which must include the instruction. On the other hand, if the country can afford to recruit paid enumerators, the census period can be lengthened and the enumerators can be given more thorough instruction.

9. It is also possible to use a combination of these categories. For instance, the following methods could be used:

(a) Civil servants not paid out of the census funds, who would work for a longer period (three to five days instead of one day) than paid enumerators;

(b) Unpaid enumerators in the urban areas for a shorter period and paid enumerators for the rural areas, or those parts of the rural areas which have a very scattered population, who would work for a longer period.

10. During this first stage, the duties of the supervisors must be defined and on the basis of that decision, the proportion of enumerators to supervisors must be decided also. This is usually from three to ten enumerators to one field supervisor.

11. The choice of enumerators also indirectly decides the area which each enumerator will cover. The decision regarding these areas depends on the following factors:

/(a) The

(a) The time to be spent on the enumeration;

(b) The method to be used (the canvasser method requires more enumerators than self-enumeration).

Based on the method to be employed, the average number of households or living-quarters which one enumerator could enumerate in one day can be determined. This can be estimated according to the size of questionnaire and the difficulty of the area -- urban, rural, etc. - at between ten and thirty households daily. The other element in determining the area to be enumerated by each enumerator has to come from the field preparation, i.e., the basic information from the household (or living quarters) listings, which give a preliminary figure for dwelling households or population by blocks, buildings, etc. This information can also be used as a basis for estimating population for the distribution of questionnaires, the work-load and the number of enumerators and supervisors required.

12. Recruitment has to start some considerable time before the census enumeration. The local census commissions or, rather, the local census executive (who is in most cases the head of the local administration) has to study the local possibilities for appointing enumerators and supervisors four to six months before the census enumeration date. During the first stage, the number of enumerators and supervisors needed must be determined on the basis of the prepared field material, and this number must be increased by 20 to 30 per cent to take care of possible future drop-outs. He must also start to collect information on the number of persons available to serve as enumerators. For this purpose it is helpful to organize a local census sub-committee, which selects the eligible candidates.

13. Obtaining sufficient staff with the necessary qualifications - especially if adequate remuneration is not available - is generally a serious problem. The difficulties are, of course, more serious in countries with a high percentage of illiteracy, and it is harder to find the staff required for an accurate census when there is a shortage of financial resources. Nevertheless, there are many ways in which the great and difficult problem of recruitment for the enumeration can be solved, even if no financial resources are available. The basic point is to organize the operation from the beginning and to co-operate with other government agencies, especially

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those which have a fairly large number of employees, who can be drawn upon all over the country (mostly in rural areas, where the staff recruitment is the most difficult task). These agencies could make their local employees available for a limited time and also could ask or, even better, instruct them to participate in the census enumeration. The assistance must be co-ordinated not only at the national level, with the Ministries or other government agencies concerned, but also at the regional or even the local level, with the given specialized authorities. In some cases it is necessary to give the civil servants who will participate in the census an incentive, such as being freed from their routine work. If possible, the use of civil servants in the census should be centrally organized. For instance, the Ministry of Education could grant a school holiday for the census days (or for a longer period) and also give pupils and staff permission to participate in the census instruction; the local administrative officials would be permitted to participate in the census work while being paid in the normal way, etc. All these provisions should be given legal form - in the census law, for instance, or in another form, such as a ministerial decree for the whole country - and civil servants should not be recruited through ad hoc requests.

14. It is preferable to recruit from the following groups, and generally speaking only those members of the groups who have been resident in the same locality for a fairly long time, are in frequent contact with the local inhabitants, and are familiar with the territory:

(a) Primary school teachers, who are generally the best for enumeration work because they are to be found in both urban and most rural areas, are in daily contact with the population, generally have the basic skill for statistical work and often the experience of it, are highly respected by the population and are independent of other public activities (e.g. politics, taxing, police control). Therefore teachers could be considered as the basic source for the recruitment of enumerators especially in rural areas. The problems of administration and concentration are easy to solve in the case of teachers, as this can generally be done through the educational

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administration, which is generally well organized and through the directors of the schools. It is also easier to ensure that they are given the necessary time for the enumeration work, including its preparation either by organising the census during a school vacation or by granting special holidays for the enumeration days or periods.

(b) In addition, some secondary school teachers also can participate in the enumeration, but this is generally of help only in the urban areas, where these schools are located.

(c) Also in the urban localities, some of the senior secondary school pupils and university students could be used as enumerators, but there might be problems in employing persons from this group, especially if they do not undertake the work really voluntarily and do not take it seriously. It is much better, therefore, to select only the most serious students, who would be recommended by the school authorities.

(d) Officials and employees of the central and local government can also be used in some cases as enumerators and supervisors; generally speaking, they form one of the most skilled and serious groups from which enumerators can be drawn, especially if the central government gives due importance to the census operations, allowing them time off from their ordinary work during the census period and providing for the payment of their salaries or a slight extra remuneration for their additional work during that period. It is preferable, however, not to use such agents as tax collectors, housing inspectors, etc., because their participation tends to enhance the fears of those who believe that the census is related to tax policy, housing control, etc.

(e) Some countries consider it necessary to use police officials and members of the armed forces as enumerators, especially in areas which are difficult to access or in rural areas generally; but this is a questionable procedure because of the fear of the population that the census may be related to police activity or military conscription, which may lead to census errors, i.e., a failure to enumerate all persons or the giving of incorrect information.

/If local

If local conditions make the presence of a police official or a member of the armed forces necessary, because of their knowledge of the area or because of possible dangers, it is preferable that they serve only as guides or escorts for the enumerators. If it is absolutely essential that they act as enumerators themselves, they might be instructed not to wear uniforms while carrying out this task.

(f) In some other cases, if the above mentioned groups are not sufficient for the selection of enumeration staff, it is possible to recruit enumerators from other sections of the population, always bearing in mind the great need for trained, disciplined and experienced personnel. Thus, in some countries enumerators are recruited among employees of private enterprises, pensioners who are not very old and have a long record of service behind them, and even housewives, if they are sufficiently well educated; but all of these groups are considered as secondary, and often they can be used only if a remunerated enumeration system is accepted.

15. It is not necessary to distinguish between enumerators and supervisors at the time of selection; the best method seems to be to select the two groups together and only to differentiate between them after the instruction, when the best or most experienced trainees will be given posts as supervisors, and the rest will become simple enumerators.

16. After thought has been given to these considerations and a detailed study has been made of the local possibilities, the recruitment must be planned, and the selection itself could begin, not later than two to three months before the enumeration. First, it seems advisable to contact the candidates for this work through their organization, i.e., through representatives of the institution or agency to which the candidate belongs. For instance, the chief of the education service may hold a meeting of school principals at which the form of the census organization, the necessary number of enumerators, the methods of selection, etc. are discussed. After this the school principals will talk to individual teachers about their possible participation, etc. It is preferable that in such meetings (especially with a larger group or more important people)

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the local census chief and/or the local statistician responsible for the census operation should participate and give a short introductory talk about the necessity and importance of the census, and possibly distribute a propaganda pamphlet giving preliminary information.

17. Political influence is frequently brought to bear on the selection of field staff. Such influence might be considered to include, for example, the giving of employment in census work (especially if remunerated) to unemployed persons; but to ensure an accurate census such persons should be given preference only when they satisfy the conditions established for the performance of the required duties. Nevertheless, political influence in favour of certain persons can play an important part in the selection of candidates as enumerators, especially in the case of remunerated posts. Local census offices and administrative authorities can effectively combat such influence, however, in countries where they are free to formulate and enforce conditions and qualifications for recruitment of census officials.

B. Training of field staff

18. After the candidates have been accepted for training as enumerators, it is necessary to fix the date of the instruction and to inform them of it and of their obligation to participate. At the same time, all participants must be provided with a manual of instructions for the enumeration and a copy of the census questionnaire, which they should be asked to study before the opening of the training course. The preparation of the training course should be completed by the local census office ten to fifteen days before the instruction starts, arrangements should be made for the necessary meeting rooms, and a time-table should be drawn up for the whole course of instruction. The instruction should be given in buildings which are relatively close to the enumerators' place of work or residence and if possible should be obtained without payment; schoolrooms, or the council-room of the municipality or some other government office, etc., might be obtained on this basis.

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19. The form of the training course for the enumerators and the place where it is organized are mainly determined by the method of recruitment. The instruction may be organized in another way if the census is being carried out by remunerated enumeration staff and the census period is relatively longer, and different instruction methods must be chosen for non-paid enumerators, especially for a short (e.g., one-day) enumeration period. This means that the number, skill and remuneration of the enumerators, and the degree of difficulty of the enumeration (sample studies, complicated questionnaires, etc.) are the elements which have to be taken into consideration in planning the training.

20. One basic element is the person who is responsible for the instruction. This instructor must be given a special and rather longer training during which he will study not only the census techniques, methodology and theory, but also teaching methods.

21. If possible, the instruction for enumeration should be organized in two stages:

(a) The training, in the central office, of the persons who will be responsible in instruction in the field. These will mainly be staff members of the central and field offices who are well trained and experienced statisticians;

(b) These centrally trained instructors will then give training courses for the enumeration staff.

This ideal method can be used only if relatively few enumerators are employed, because of the cost of a remunerated staff and the longer census period. Otherwise, there has to be a third stage, during which centrally trained chief instructors give a longer and more detailed course of instruction to those people (generally the heads of the local offices, who are mostly local civil servants, or directors of schools, etc.), who will train the enumerators.

22. These two forms could be used side by side. For instance, in the urban areas and larger towns the centrally educated instructors would give the courses in which not only the local enumeration staff might participate, but also the local instructors for rural places, who would travel from their areas to participate in this instruction.

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23. Nevertheless, whatever the form of the instruction, the central office's leading and co-ordinating role must be assured in order to guarantee the employment of uniform method, to ensure the use of the best instruction materials and the best possible preparation of the instructors, while at the same time enabling members of the central staff, regional commissioners, and members of the field offices to supervise the training courses.

24. The above-mentioned form of instruction determines also where the courses shall be held. In the case of a centralized organization, it is necessary to concentrate the instruction in relatively few places, mostly towns and administrative centres, where all the enumeration staff working in the whole administrative area can participate. This form of instruction is more expensive because participants must be paid not only a daily salary or per-diem allowance for expenses, but also travel costs. Locally organized instruction courses generally cost less, but because they are very scattered, they are usually not so well co-ordinated and the technical level of the instruction is not so high.

25. Not only the form but the duration of the instruction must be decided. There is no general rule as to the most desirable length for the course, but for the success of the enumeration, the course of instruction should be sufficiently long and detailed so that the enumerators understand thoroughly the meaning of the questions with which they are to deal, as well as the underlaying concepts and definitions and the enumeration techniques to be employed. Naturally, there is a close relation between the training period and the period of the enumeration. When a rather complicated technique is being taught, the period of instruction should be relatively longer. Generally speaking, a minimum of two days of instruction is necessary in such circumstances, and the course should, if possible, be longer. These two days of training, each of which should comprise six to eight hours of instruction, may be given consecutively, or there may be an interval of three to six days between them, which would give the participants time to study the materials and instructions after the first introductory session. But, naturally, it is preferable to give

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a longer course, if possible with a duration of three to five days, especially if a more complicated census is to be taken and time and teaching staff are available. The more detailed the instruction, the more skilled are the enumerators.

26. The census instruction, like any other course, is aimed at: (a) teaching facts; (b) instilling attitudes, and (c) developing skills. Those responsible for census training must develop the type of training material which secures immediate and complete attention for the short period of instruction. There are three major categories of material: (a) symbolic, i.e., words; (b) representative, i.e., pictures and other creations of the instructor, and (c) objective materials, which are part of the job itself.

27. The census office has to work out a general outline for all instructors, giving the detailed plan of the whole course, dividing the available training time into a sufficient number of sections for all the material to be taught. Different training plans may be worked out for urban and rural areas.

28. Because of the short time generally available, the participants should be given the manuals and the census materials beforehand and asked to study them before the training course begins. It is not necessary, and often not possible, to explain in detail all the census procedures, the theory, etc. The best method is to give practical instruction in enumeration work, comprising a general idea of the census and the main points of the duties of the enumerators. The manual itself will contain all the detailed instructions, which do not need to be repeated verbally in the courses.

29. The basic aim of census training is to instruct the enumerators with regard to their general conduct and the precise manner of using the enumeration material. Such training includes accurate practical information which will ensure the collection of better census data, both in quantity and in quality. The proper preparation of the basic questionnaire and corresponding instruction, and of the other enumeration documents has a direct bearing on the training of the staff, inasmuch as they form the technical basis for the census. The main definitions of terms and the

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interpretation of the questions, generally contained in the instructions for the enumeration, represent the standards officially adopted for the census. These should, therefore, be transmitted and carefully explained to the enumerators and to the supervisors, in order to obtain a uniform system for the enumeration of the whole population.

30. The plan of census enumeration training could be divided into the following main phases:

1. Theoretical

(a) Introduction: the importance and necessity of the census, the national and international tradition of census taking, international recommendations, national census legislation;

(b) The duties and the rights of the census enumerators and supervisors, the importance of their work;

(c) Territorial preparation of the census: determination of the individual enumeration areas by control lists and diagrams;

(d) The method of the enumeration, the materials to be used for the enumerations (questionnaires, etc.);

(e) The basic points of the census questionnaires and their definitions: building, living quarters (dwelling), household, family, population categories to be explained not only theoretically, but also with the help of examples, charts and diagrams;

(f) Introduction to some of the more complicated terms used in the census questionnaire: the explanation should not be too detailed, and only general instructions should be given without too many exceptions;

(g) The enumerators' duties after the data have been collected (summaries, etc.).

2. Practice in filling in the questionnaire

(a) Studying the preparation of answers on a questionnaire that has already been filled in (which is printed for the purpose, together with the instructions);

(b) Organizing a practical exercise during which the instructor, acting as an enumerated person, is asked the questions by various participants, and they all fill in the answers on the questionnaire; for this purpose various sets of questionnaires could be centrally prepared and provided to the instructor illustrating the different types of households, with various occupations, etc.;

/(c) The

(c) The participants ask each other the questions and answer them as though they were enumerated persons;

(d) All participants fill in a questionnaire about their own family.

31. These various forms of practice could be used together if sufficient time is available, or if not, one or two of them could be selected. The participants might also be asked to fill in questionnaires (as an experimental enumeration) between the two parts of the course, e.g., the first part is theoretical and the second practical instruction. If this is done, the participants will have gained sufficient practice and experience by the second meeting, and the discussion can be based on this.

32. The practice in enumeration and the active participation of the trainees in the course preclude the necessity for a formal oral or written examination; but the instructor should question every participant during the course so as to check the ability of all candidates. Only after this has been done can any decision be taken on which of the participants may be selected to act as: (a) supervisors, because they are the most skilled and experienced; (b) enumerators, because they have adequate knowledge and practice in census materials; (c) reserve enumerators because their knowledge is not quite sufficient but they could be given further instruction later on if necessary; and, lastly (d) those who cannot be accepted for census work because they have no aptitude for it.

33. Sometimes it is necessary to organize a supplementary course for the supervisors, if possible, together with the field census staff, on the special duties of a census supervisor. This could be relatively short and could be held after the enumerators that are being recruited have completed their instruction.

34. In some countries the last period of the training course is used for the distribution of the census materials (control lists, diagrams, description of the zones, questionnaires, summaries, enumerators' certificates and contracts, etc.) to the enumerators; but it is preferable for the local census office to distribute the materials individually very soon after the instruction but not long before the enumeration itself because there is then more time available and it is easier to explain certain practical problems, e.g., regarding the individual area of the enumerators, etc.

/C. Census

C. Census publicity

35. Arranging the publicity for the census is another of the important tasks in the pre-enumeration stage and entails an educational campaign, the purpose of which is to enlist the interest and co-operation of the public. Its aims, as a general rule, are not only to dissipate any anxiety regarding the purposes of the census but also to explain the reasons for the various questions on the questionnaire and to give some guidance as to the manner in which these questions should be answered.

36. The publicity campaign must be planned in conjunction with the general plan of the census, and it is desirable that it should be divided into parts corresponding to the programme of the census preparation. Its main purpose is to facilitate the enumeration. It is most effective when it is properly synchronized with the various stages of the preparatory work and of the census itself.

37. The purposes of the census publicity may be divided up as follows:

(a) To inform the public about the census, explaining the importance and necessity of the population and housing censuses in the future development of the country, region and locality, especially as a basis for planning;

(b) To request the full co-operation of the public in the census operations, especially in the enumeration phase;

(c) To inform the public about the census procedure, the content of the questionnaires, the duties of canvassers, and what preparation and collaboration are expected from the population (e.g., the preparation of documents for obtaining data, staying at home on the census-day, etc.).

38. Population censuses may give rise to doubts and apprehension on the part of some of the inhabitants of almost every country (e.g., they fear that it may be related to taxation, military service, police purposes or the like), which have to be dissipated by effective publicity. Ignorance of the importance and real purpose of the census may make people reluctant and even afraid to be questioned by outsiders, especially if the public has not been properly informed about them. This applies particularly when the publicity campaign in favour of the census fails to reach certain areas of a country. The campaign therefore should be directed to all

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sections of the country and all segments of the population through the use of all available media of information. Specially prepared propaganda and special forms of publicity must often be used in areas with a very scattered population or in those areas where aborigines or nomads are living or in other remote areas where the inhabitants have only slight contact with modern civilisation, and even in some urban or semi-urban localities, especially in the slum areas (poblaciones, favelas, etc.).

39. In the population and housing censuses of various countries in different parts of the world use has been made of almost every method of publicity to prepare the public for the visit of the enumerator and thus help to make the enumeration efficient. Census publicity should be of high quality, which does not mean that it should be complicated or incomprehensible to the majority of the population. On the contrary, it should be simple, clear, accurate and intelligently directed. All available publicity media should be utilized in order to make the purposes of the census and the manner in which the questions should be answered widely known.

40. All publicity materials must be prepared in time, generally by the census office (perhaps with the help of a publicity sub-committee of the census commission), and must be sent to every part of the country. It is necessary to start the propaganda campaign as soon as the census is authorized, but it should not be intensified until the preparations for the enumeration are completed. It is not advisable for the intensified publicity to start very long before the enumeration, because the public may lose interest in it before the enumeration gets under way. It is best to start the campaign three to four weeks before the enumeration, and if possible, to intensify it two to three days before the census day.

41. The main media for census publicity are the following:

(a) Newspapers, magazines, and other periodicals, which provide a wide range of publicity. Theoretical articles about the importance and aims of the census can be published in the preparatory phases and on the enumeration method at a later stage. These can be followed just before the census by reproductions of the census questionnaire and explanations of how to give the answers. It is necessary that all newspapers, both

/national and

national and local, should publish articles on the census regularly, just before and during the enumeration. A good method also is to publish reports on the local preparations and on the enumeration.

(b) Radio and television, where talks, speeches and messages are very valuable because they reach the illiterate population and also the inhabitants in more remote areas where newspapers are not widely read. Radio announcements supplied to stations for use in the public service all over the country, broadcasts and radio talks by top officials pointing out the value of the population census and requesting public co-operation, examples of questionnaires and of forms of enumeration, etc., are the basic examples of the use of this publicity medium.

(c) Census publicity films and slides, which also bring the census publicity to a very large section of the population. Longer films - especially on the form of data collection - could be used in local cinemas in special showings arranged by the census office in selected areas, in schools, factory and other clubs, and on television. The slides can easily be distributed to the same places and used, for example, in cinemas for flashing on the screen at the beginning or end of their regular programmes, etc.

(d) Posters, which are useful in attracting public attention, especially when well designed and brightly coloured. In areas with a largely illiterate population, pictorial posters produce good results by making people ask questions and stirring up interest about the census. In urban areas it is possible to reproduce the census questionnaire in a poster and thus inform the population on the content of the census. Posters of various sizes and contents could be put up not only in the streets, but also in shop-windows, the entrances of larger residential buildings, halls of public buildings (post-offices, railway-stations, government offices), schools, factories, and other frequented places.

(e) Pamphlets and leaflets, which can be distributed widely throughout the country (e.g. by mail); they can be used to popularize the subject of the census and to give information about the date of the census and the duties of the population.

(f) Postage stamps mentioning the census date.

/(g) Small

(g) Small flags or badges, to be distributed especially to school-children, popularizing also the subject and the date of the census.

(h) Use of rubber stamps of census messages on envelopes.

(i) Official declaration of a "Census Year", or, better a "Census Month", or only a "Census Week", which together with the other propaganda, will help to popularize the census.

(j) Lectures and lessons in schools and other public places such as clubs, cultural centres, hospitals, associations, etc., could also attract fairly large groups of people and explain to them the importance and method of the census. They would also provide an opportunity of answering questions and dissipating any fear of the census. It is also possible to organize public meetings in residential areas, larger buildings, etc., in which census officials would inform the inhabitants about the census.

42. Thanks to the use of all possible forms of publicity, the total population of the country concerned should be in a state of complete readiness to go through the enumeration during the enumeration period. Publicity also can prepare the population in another way. The public can be told that if anybody is not enumerated during the official - and well publicized - enumeration period, he should call at the local census office to enumerate himself. This could decrease the number of census omissions.

III. THE ENUMERATION PROCEDURES

A. Method of enumeration

43. There are the two following major methods of enumeration:

(a) The canvasser or enumerator method, in which information for each individual is collected and entered on the questionnaire by a census official designated to perform this operation in a specified area;

(b) The householder or self-enumeration method, in which the major responsibility for entering the information is entrusted to a person in the unit being enumerated - usually the head of the household - although the questionnaire is usually distributed, collected and checked by a census official.

1/ In this paper no reference is made to sampling methods applied to census enumeration. This is discussed in document ST/ECLA/Conf.32/L.12.

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44. In some countries preference is given to the canvasser method, because enumerators are carefully trained in the performance of their duties and their interpretation of the questions and instructions is likely to be accurate and uniform and their entries consistent. Many of the difficulties caused by illiteracy or ignorance among the population can be eliminated by this method since all the explaining and writing is done by the enumerator, and it also avoids the problem of persons who are at a low level of literacy but would be reluctant to admit their inability completely to understand a written question. Trained canvassers will have more interest and a greater feeling of responsibility for the census than the average householder, while good publicity about the census generates trust in the enumerators and a willingness to answer their questions honestly. Because of the advantages of their special training, enumerators can usually deal with longer and more complex questionnaires than the general public.

45. The householder method reduces the cost of the census because a smaller enumeration staff is required than for the canvasser method. It is felt that the greater time available to the respondent for answering the questions lessens the possibility of errors arising from haste or carelessness or simply lack of immediate information on his part concerning members of the family or household. Confidentiality can more easily be preserved and, in fact, respondents may be reluctant to give personal information to a locally recruited enumerator who may be acquainted with persons living in the near vicinity. A greater interest in and sense of responsibility for the census on the part of the general public is more likely to be stimulated by giving the householder the personal responsibility of completing a form.

46. Nevertheless, the main fact which settles which method will be used by the given census is the social and economic development and the cultural and educational level of the population of the country. Therefore it has to be recognized that in those countries where literacy is still low (especially in the rural areas), the canvasser method is the only acceptable one.

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47. In some countries, where urban population has reached a higher level of education that that of the rural areas, it is possible to use a combination of the two basic methods. For instance, the household method could be used in urban areas and the enumerator method in the rural areas. In some cases, the division could be based on other criteria, such as literacy, with the canvasser deciding which respondents are sufficiently literate to complete the questionnaire themselves, or with provision for self enumeration at the request of the householder.

48. Other special forms of the enumeration are those combinations where some answers are given directly by the householder and the others (more complicated) completed by the enumerators (e.g., all of the economic characteristics). But in this case the enumerator has to visit every household also twice, first to distribute the questionnaire and the second time to complete it.

49. Another method of enumeration consists in a householder enumeration without a canvasser, in which the questionnaires are just distributed and collected. The persons responsible for the collection give no assistance in completing or checking the questionnaires. An example of this method is called the mail-out/mail-back system, where local post offices deliver the questionnaires to all addresses, and householders are requested to fill in and mail back their questionnaires on census day. This request is reinforced by a widespread publicity campaign. This method of data collecting could be used only in very developed countries, and there also, only in the larger metropolitan areas. Such a practice cannot be generally recommended, especially for the countries of the Latin American region.

50. The decision regarding the method of enumeration to be employed, that is, whether it is to be primarily the canvasser or the householder method or a combination of both, should be taken at an early stage. Even where one method or the other has been followed traditionally, it is advisable to make a periodical reassessment of the relative advantages of each method in the light of the current census needs and changing techniques. An early decision is required because the method of enumeration

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used affects the budget, the publicity plan, personnel requirements, the training programme, the design of the questionnaire and, to some extent, the kind of data which can be collected.

B. Census date and moment

51. The exact date of the census must be decided at an early stage in the census preparations. Not only the year, month and day for the holding of the census must be fixed, but also the moment of the census, i.e., the well-defined point in time to which the data collected are to refer.

52. Theoretically, it would be preferable for the decennial censuses to be taken as a general rule in the years ending in "0" or "1" or, if this is not possible, as near as possible to those years. In practice, of the twenty-two ECLA member and associate member countries which held population census in the period of 1955-1964, eleven selected 1960 for the census year, four 1961, two 1962, three 1963 and two 1964. It seems that the next census round will be more concentrated: of the twenty-three countries which have decided, more or less finally, their next census date, and according to present information, plan to hold it during 1970, two (neither of which took a census during the last round) during 1968 or 1969, and only four after 1970 (between 1971 and 1973).

53. The best period of the year in which to take a census is much more subject to national practice and local circumstances. Some countries have a tradition which fixes the month of census enumeration, but this takes due account of factors such as climate, the maximum accessibility of all areas, the people being comparatively free from economic or other activities that may keep them away from home for long periods, e.g., school year and holidays, religious holidays, and administrative convenience.

54. The general rule could be that the enumeration should take place at the time when there is the least internal migration and the weather is the best. Preference is often given to the winter or early spring months because it is not advisable to organize a census during the main agricultural season and the school holidays. But the practice is not very

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uniform: the last census was held in April and May in eight or twelve North and Central American countries, and during the September-November period in six out of the ten South American countries.

55. Some consideration must be given also to the census day itself. There is an accepted practice regarding the day of the week which is most suitable as a reference date and to begin the enumeration, or in those countries where the data collection is done during one day only, to be the day of the real enumeration. In some countries preference is given to a working day, and a day in the middle in the week is considered the best for census purposes, i.e., a Wednesday or a Thursday. In those circumstances, a week which comprises a national holiday is never selected. Some other countries select even holidays or Sundays for the census because on these days the whole family is at home (especially the head of the household, who is away at work during the week). There are some countries, especially those using the one-day enumeration method, where the census day is public holiday and everybody except the enumerator has to stay at home in order to ensure the success of the census.

56. Naturally the census day has a different meaning in the two forms of enumeration because if the canvasser method is used, this day is generally only a theoretical time of reference, and the enumeration itself may take place both before and after the census date; but if the householder method is used, and when the enumeration takes place on only one day, the enumeration day and the census day may be identical.

57. It is not enough to use only a day as the time of reference, it is necessary to determine an exact moment in that day to which the census data will refer. For this purpose a single night (before the census day) is also too long a period for an exact determination of the size of the population because of the numbers of births and deaths that may occur during one night. The census moment is usually fixed at midnight of the day before the census day. Each person alive up to the census moment is included on a census schedule and counted in the total population, even though the schedule may not be completed until after the census moment

/or even

or even after the census day and the person may have died in the interim. Infants born after the census moment are not to be entered on a schedule or included in the total population, even though they may be living when the other persons in their household are enumerated. The same moment is decisive for the enumeration of the persons who are temporarily present or absent. Generally only those persons are included in the total population who spent the night before the census day in the living quarter enumerated, or in other words slept in the living quarter.[2/]

58. Some countries prefer to fix the census moment not at midnight of the day before the reference day but at sunrise on the census day. They believe that many people may not know when it is exactly midnight and so may not be able to say, for example, whether a birth occuring on the census night took place before or after midnight. Sunrise is a more easily distinguishable point of time.

59. Where the amount of time required for enumeration is very long (exceeding one month) and the population is not likely to be able to supply information relating to a single moment in the past, it may be necessary to employ different points of time in the enumeration, even to the extent of using the day of enumeration of each household. If such a procedure is followed, it should be clearly explained in the census report and the total duration of the enumeration should be stated. For reference purposes and for the computation of intercensal indices, it is useful to designate a single date in the enumeration period as the official census date. This date could be, for example, the day on which half of the population has been enumerated.

60. The data collected about the characteristics of the population should relate to a well-defined reference period. The time-reference period need

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2/ This does not preclude, of course, the possibility that questions might also be asked referring to persons who have their normal residence in the living quarter but are absent for one reason or another. See also section D and especially paragraph 66 of this paper.

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not, however, be identical for all of the data collected. For most of the data, naturally, it will be the census moment or the census day.[3]

C. Period of enumeration

61. In the interest of simultaneity and to avoid double counting or omissions, it is important to keep the period of enumeration as brief as possible, consonant with careful work and budgetary and staff resources. The estimated time required for the enumeration in practice ranges from one day to over a month. The method of the enumeration (see paragraph 43) and the possibilities of the recruitment of enumerators (see paragraphs 16 and 17) substantially influence the duration of the enumeration.

62. By the canvasser method, the enumeration period is defined as the time during which canvassers are making their rounds for the purpose of filling in the questionnaires. In order to keep the enumeration period as brief as possible, some countries appoint as many enumerators as are needed to enumerate the whole population on the census day. The advantage of this method is that it covers every individual at this fixed point of time; the disadvantages were discussed in connexion with the problems of recruitment and training of enumerators. In most cases it seems preferable to use a smaller number of enumerators and to extend the enumeration period to some days, but not for a long period. The exact length of the period in a given country depends on the resources and availability of manpower. The pilot census will have indicated the length of time required for the enumeration of each individual or household; the approximate population of each living quarter will also be available from the preliminary control lists, so it will not be difficult to determine the actual period needed to carry out the enumeration with the available manpower. It may be three to four days, a week or a fortnight. It is not generally advisable to fix a much longer enumeration period for practical organizational reasons

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3/ See also document ST/ECLA/Conf.32/L.1.

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(e.g., it is very difficult to employ acceptable enumerators for a long period, the interest of the population flags, supervision is very difficult, etc.). The main drawback of an unduly extended enumeration is, however, the threat it constitutes to the principle of simultaneity of enumeration. Both the enumerator and the respondent may tend to forget that information is supposed to apply to the census date. Even where this is kept in mind, the respondent may find it difficult to recall with exactitude the situation which prevailed on a single day some time earlier.

63. By the householder method it is difficult strictly to define the enumeration period since questionnaires are distributed to the householders before the actual census date. In the strict sense, the enumeration period should be only the time between the census date and the last day on which the questionnaires are collected. In practice, however, it is more realistic to consider it as the interval between the first day on which questionnaires are distributed and the last day provided for their collection. But the householders could be requested to fill in the census questionnaire on the day of the census, i.e., the day following the census moment. In practice, however, because the interval between the distribution and the collection of the questionnaires is frequently several days, the householders may enter the information at their leisure.

64. While simultaneous enumeration has to be aimed at in the population, there may be some areas in a country where this is not possible, such as inaccessible hilly and jungle areas inhabited by indigenous or tribal populations, where suitable enumerators may not be locally available. Special enumerators from outside will have to be sent to cover such areas, and this is bound to take longer than the general enumeration. In such areas, the enumeration can be conducted a month or two in advance of the actual reference day and sometimes even earlier. Revisits will be out of the question. Some Latin American countries have even developed a simpler census schedule especially for such areas. In some other Latin American countries the census enumeration does not include all areas, especially those inhabited by Indian jungle populations. However, the census should preferably enumerate the total population of the country concerned, even if resort must be had to special enumeration techniques or a lengthened and simplified enumeration.

/D. Place

D. Place of enumeration

65. For census purposes, a distinction must be made between the place at which a person is enumerated and the place at which he is counted for the purpose of the tabulation. Enumeration refers to the collection of information about each person. The place of enumeration is therefore the place at which this information is obtained. The place at which a person is counted is the place to which he is allocated for purposes of determining the internal distribution of the population of the country. In most cases these two places are the same (because the person is enumerated and counted in the same place), but in some cases the place at which the person is enumerated and the place at which he is counted may be quite different.

66. In compiling the census results by geographic areas, each person can be included in either: (a) the household (and hence the geographic area) where he was found on the day of the census; or, (b) the household (and the geographic area) where he usually resides (usual place of residence). This allocation is not necessarily dependent upon the place at which the information is collected but it can be simplified by the proper choice of a place of enumeration.

67. If only a present-in-area (or de facto) population distribution is wanted, it is logical to enumerate each person at the place where he is found at the time of the census; but it is possible also to request information, in addition, on the persons who are temporarily absent at the time of the census, and also to distinguish between residents and visitors (or transients) in the present-in-area population.

68. If, on the contrary, only a distribution by usual place of residence is required, it is more satisfactory to collect the information about each person at his usual place of residence. One of the drawbacks of this method is that it is not always possible to collect information about each individual at his usual place of residence, especially when an entire household is away at the time of the census. Furthermore, the persons who are temporarily absent from their residence would very often be omitted

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from the enumeration, because they would not be enumerated either at their usual residence or at the place where they are found temporarily at the time of the census. Some provision must therefore be made for collecting information about such persons at the place where they are found at the time of the census.

69. With the growing interest in information on households and families, on internal migration and on the housing situation, it is becoming increasingly desirable to prepare tabulations on the basis of usual place of residence rather than on the basis of place where found, since the latter is often temporary and so is not useful for the investigation of the above-mentioned topics. Also, although it is comparatively simpler to enumerate each person where he is found on the day of the census and to use a present-in-area population distribution, a usual-residence distribution is likely to be more accurate than a present-in-area distribution, if the time required for enumeration is so long as to permit considerable movement of persons during the interval.

70. It is desired, however, to obtain information, if possible, on both usually-resident population and the present-in-area population, with a clear distinction being made on the questionnaire, betweeen: (a) persons usually resident and present on the day of the census; (b) persons usually resident but temporarily absent on the day of the census; and (c) persons not usually resident but temporarily present on the day of the census. The categories (a) and (b) consist of the usually resident population and the categories (a) and (c) consist of the de facto population. There exist various procedures and methods for enumerating these categories and for ensuring that the information is obtained in the best possible way. This subject is dealt with under the heading "Preparing census questionnaires" (see document ST/ECLA/Conf.32/L.6).

/E. The

E. The enumeration itself

1. Material provided for the enumerators

71. After the enumerators have been trained, they must be supplied with the material which they will use in the enumeration. This is distributed in some cases at the end of the instruction itself, and in other cases later, but some days before the enumeration day. The distribution of the material is the responsibility of the local field office, which may distribute it directly or through the field supervisors, who are in direct contact with the enumerators attached to them.

72. The material supplied to the enumerators consists of the following:

(a) Questionnaires;

(b) Guides to the enumeration area, such as maps, buildings, living quarter or household listings, etc.;

(c) Summary and administrative forms;

(d) Identification cards, stickers, badges and other accessory equipment;

(e) Pencils or pens.

Some other materials, such as manuals and other descriptions of the enumerator's duties and instructions on how to carry them out have already been provided during the training courses, so as to give the enumerators time and opportunity to study them.

73. The most important of the materials provided are the questionnaire forms, on which the enumerator will record the population and housing census data. The quantity of questionnaires to be distributed is based on the preliminary listings of the area where the enumerator will be working. It will depend on the type of questionnaire that is used for the census concerned (i.e., single individual, single household or single living quarters, multiple household or multiple living quarters questionnaires may be used). Regardless of the type of questionnaire, it is necessary to supply the enumerator with 20-25 per cent more than the exact number of questionnaires because there may be omissions in the preliminary listings,

/and during

and during the enumeration work the enumerator himself or the householder may make a mistake, when it will be necessary to replace the questionnaire with another.

74. In some cases, besides the basic questionnaire, some additional forms are employed, e.g., for some additional inquiries, or to obtain building data or sampling information. The enumerator will also have been provided with a sufficient quantity of these supplementary forms.

75. As mentioned before, the enumerator has also received printed instructions for filling in questionnaires. In the case of the householder method these instructions, which sometimes consist of a separate booklet or sheet and in other cases are written directly on the questionnaire, are distributed to each household. But by the enumerator method, it is necessary to use instructions for the householders only sometimes, for the cases when the enumerator does not find the householder at home after repeated visits and leaves the questionnaire to be filled in.

76. Other necessary materials for the enumerators are the summary and administrative forms. They are generally of three kinds: (1) Check-lists (mostly used under the householder method); (2) forms for preparing summaries of the information on the enumeration area, when the data have been collected; and (3) other reports, e.g., on the amount of the work they have accomplished (daily for the whole period) or financial claim forms if the enumeration is paid or there are expenses (e.g., travel) to be reimbursed.[4/]

77. The guides to the enumeration areas are essential to enable the enumerator to establish clearly the limits of the area for which he is responsible, to ensure complete coverage, and to avoid duplication. There are several forms which facilitate a clear understanding of these points which are discussed in detail under agenda item 4 (d) (see document ST/ECLA/Conf.32/L.4). The forms may be different for the built-up areas and the sparsely inhabited rural areas.

4/ The details of the preparation and use of census control lists see in document ST/ECLA/Conf.32/L.4 of this Seminar.

2. Preliminary survey of area by enumerators

78. One or two days before the enumeration, the enumerator must become acquainted with his enumeration area. This preliminary visit is made prior to the regular rounds for enumeration. Its main purpose is to clear up any uncertainties which the enumerator may have regarding the boundaries of the enumeration area before enumeration begins. But it may be used for other purposes too. For instance, the enumerator may be required to make his enumeration plan, that is to say, to pre-determine the route which he will follow at the enumeration time, and perhaps to sketch in this route on any map with which he is provided. He may also be asked to verify or correct this map. If it has not been possible to prepare maps of the enumeration area, the enumerator may even have to make a sketch map of the area and its buildings or dwellings. At the same time, the enumerator could check the preliminary living-quarter or household listings provided or, if it has not been possible to prepare these beforehand, he could prepare a list with information on the enumeration units.

79. The primary visit could be used also to inform the population of the exact date of the enumeration visit (by the enumerator-method), the enumerator leaving with each household a printed announcement of the approximate time of his next visit; or he may discuss with the household what would be the most convenient time for him to call. The enumerator may also distribute posters or other publicity material on the census asking for the collaboration of each household.

80. When the householder method of enumeration is used, the preliminary visit could be used for the distribution of questionnaires. Though it might be possible to combine the preliminary exploratory visit with the first round of visits in the householder enumeration method, in most cases this is not advisable. The distribution of the questionnaires has then to be preceded by a preliminary visit, just as in the canvasser method described above.

81. The visit on which the questionnaires are distributed may be regarded as a pre-enumeration visit, since data respecting the population are not entered on the questionnaires until after this distribution, although a

/certain amount

certain amount of geographical information is sometimes filled in on the questionnaire by the enumerator before he leaves it with the householder.

3. Collection of census data

82. The collection of census data, i.e., the real enumeration visit, involves different duties and lasts for different periods, depending on which of the two types of enumeration is being used. It is only in the case of the canvasser method that we can really speak of "enumeration duties" because by the householder method, the data collection is theoretically the duty of the householder but the enumerator often assists the householder in completing the questionnaire and as stated in paragraph 85, he is usually required to examine questionnaires for omissions and errors as part of the collection procedure.

83. By the canvasser method, the enumerator uses his visit to conduct the interview and enters on the questionnaire all the geographical and housing information and the data required for each individual. He usually enters the serial number of each living quarter (which may be previously assigned, on the basis of the preliminary control lists, or given during the enumeration as an order number). After each interview or at the end of the day, he has to enter the summary data in his summary or control list. In some cases, as each interview is completed, he may have to provide evidence of the enumeration of each unit or individual (especially, for example, in the case of the temporarily present members of the household) by pasting up a sticker or issuing individual receipts.

84. The enumerator usually makes only one visit to each unit enumerated in order to collect information on each household and each person. He may, of course, have to call back if he cannot get information on his first visit (e.g., because the whole household, or the head of the household, or all adult members of the household are absent) or if the informant cannot give complete information for each person. Such a call back may even be arranged by special appointment, for which a special form is used in some countries to inform the household of the date of the next visit. In this case a record should be made by the enumerator from the living quarters or households for which call-backs are required (and for that

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purpose a supplementary questionnaire would be prepared). In some other countries, the enumeration method itself automatically requires two visits. For instance, on the first visit the information for the basic questionnaire is enumerated and on the second visit, the data for a special supplementary questionnaire (often for a sample survey).

85. In the householder method, the main - and often only - purpose of the enumeration visit is to enable the enumerator to pick up the questionnaires which have been filled in by the householders. In some cases, the enumerator provides assistance in completing questionnaires and may have to answer questions put by the householder or explain instructions to him. Regardless of the degree of assistance he is expected to render, he is almost always required to examine each questionnaire for errors or omissions and then either make or assist in making the necessary additions or corrections.

4. Post-enumeration duties of enumerators

86. The enumerator's work is not completed with the last interview he conducts. Regardless of the method of enumeration, he generally has to carry out the following post-enumeration tasks:

(a) Checking the completeness of the questionnaires and putting them in order according to the preliminary or enumeration control list;

(b) Entering the serial numbers on the questionnaires, if it has not been done during the enumeration;

(c) Entering various kinds of summary information on the summary lists and/or the questionnaires;

(d) Completing production reports, control lists of financial accounts;

(e) Handing over the completed questionnaires and other materials to the field supervisors;

(f) Re-enumerating some households in the area in cases where mistakes or inconsistencies or missing or suspicious entries are found upon the first examination of the questionnaire, which is generally done by the supervisors;

/(g) In

(g) In some cases editing and/or pre-coding his questionnaires, especially to make certain that all entries are consistent.

This post-enumeration work usually has to be done at the end of each day if the enumeration lasts for more than a day. Naturally, if it is a one-day enumeration, all this work is done at the end of the enumeration, preferably, however, on the same or at least on the following day.

5. Supervision of the enumeration

87. Adequate supervision of the enumeration is essential. Where the enumeration extends over more than a few days, periodic assessment of the quantity and quality of the work accomplished facilitate the correction of inefficiency and the maintenance of satisfactory progress during the enumeration period.

88. The best way to ensure direct and continuous supervision is to appoint a field supervisor, who is the official immediately above the enumerator. The supervisor is usually responsible for a field or area, which includes at least three and not more than ten enumerators.

89. The supervisor must maintain direct and constant contact with the enumerators. Arrangements should be made for the periodic assessment of each enumerator working under him, particularly where the enumeration takes more than a day or two. The best way to do this is for the supervisor to have a daily meeting with the enumerators, when they will give him the questionnaires they have completed during the day and discuss any problems of questions they may have regarding the enumeration.

90. The main duties of supervisors are the following:

(a) Preliminary editing of the questionnaires completed by the enumerators;

(b) Checking the quantity of work performed by each enumerator, by means of daily progress reports;

(c) Inspecting and observing several interviews conducted by each enumerator, especially in the early enumeration period;

(d) Revisiting some households to check the work done by the enumerators, especially where there have been errors and omissions;

/(e) Assisting

(e) Assisting the enumerators in any complicated cases where the enumeration is unclear;

(f) Making a given number of post-enumeration visits (e.g., 10 per cent of the households which the enumerator had completed) in order to estimate the magnitude of the errors in the enumeration, and especially to check the accuracy of the enumeration, i.e., any omissions or double-countings, etc.

(g) Checking and editing the summaries and other reports handed in by the enumerators;

(h) Preparing summaries and administrative reports relating to the area in which he is responsible, i.e., reports on the work which the enumerators working under him have completed.

91. Naturally, the system of field supervisors who directly supervise the work of each enumerator is one of the best ways of directing and supervising the enumeration. It is possible to do without such a system if the staff of the local census office is directly supervising the enumeration. In some other cases, the supervisors are directed by a chief supervisor, who is responsible for a whole district or a larger area inside the administrative unit (e.g., the chief census supervisor has two assistants one for the urban, the other for the rural areas). Whatever form of supervision is chosen, however, the local census office or the local census commission directs and controls the work of the enumerators and supervisors.

92. Besides the local supervision, the staff of the central census office and also the regional census commissioners assist in the direction and control of operations throughout the enumeration and, in particular, provide help when needed. The best arrangement is for some members of the central staff to be attached to specific regions, provinces or larger towns, where they act as advisers to the local or regional census offices; but the responsibility for the field work lies, by force of circumstances, with the local authorities.

/93. The

93. The enumeration and its supervision are the most important stage of the whole census operation. All the preparatory work at the pre-enumeration stage is aimed at ensuring as good an enumeration as possible, and the quality of the data processing really depends on how well the enumeration is carried out and supervised. The success of the census itself, therefore, really depends on the quality of the enumeration. In all cases supplementary investigations should be carried out to check the reliability of the census results.[5/]

5/ The question of evaluating the data obtained in the population and housing census is discussed in another paper (ST/ECLA/Conf.32/L.11).